

Introduction to Utility Energy Service Contracts

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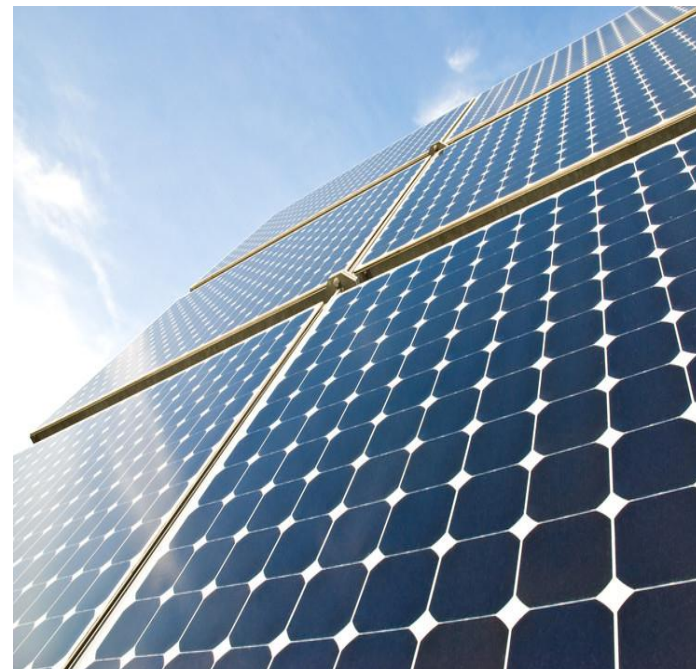
UESC Presentation Agenda

- Basics
- Authorizing Legislation
- Contracting Overview
- UESC Process
- UESC Resources

UESC Basics

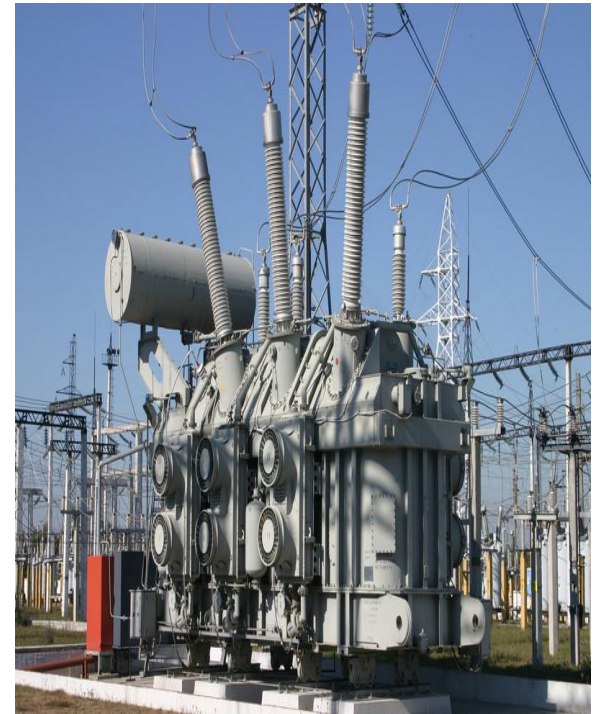
What is a Utility Energy Service Contract (UESC)?

- A UESC is a contracting vehicle that allows utilities to provide to their Federal customers:
 - Comprehensive energy and water efficiency improvements
 - Demand-reduction services

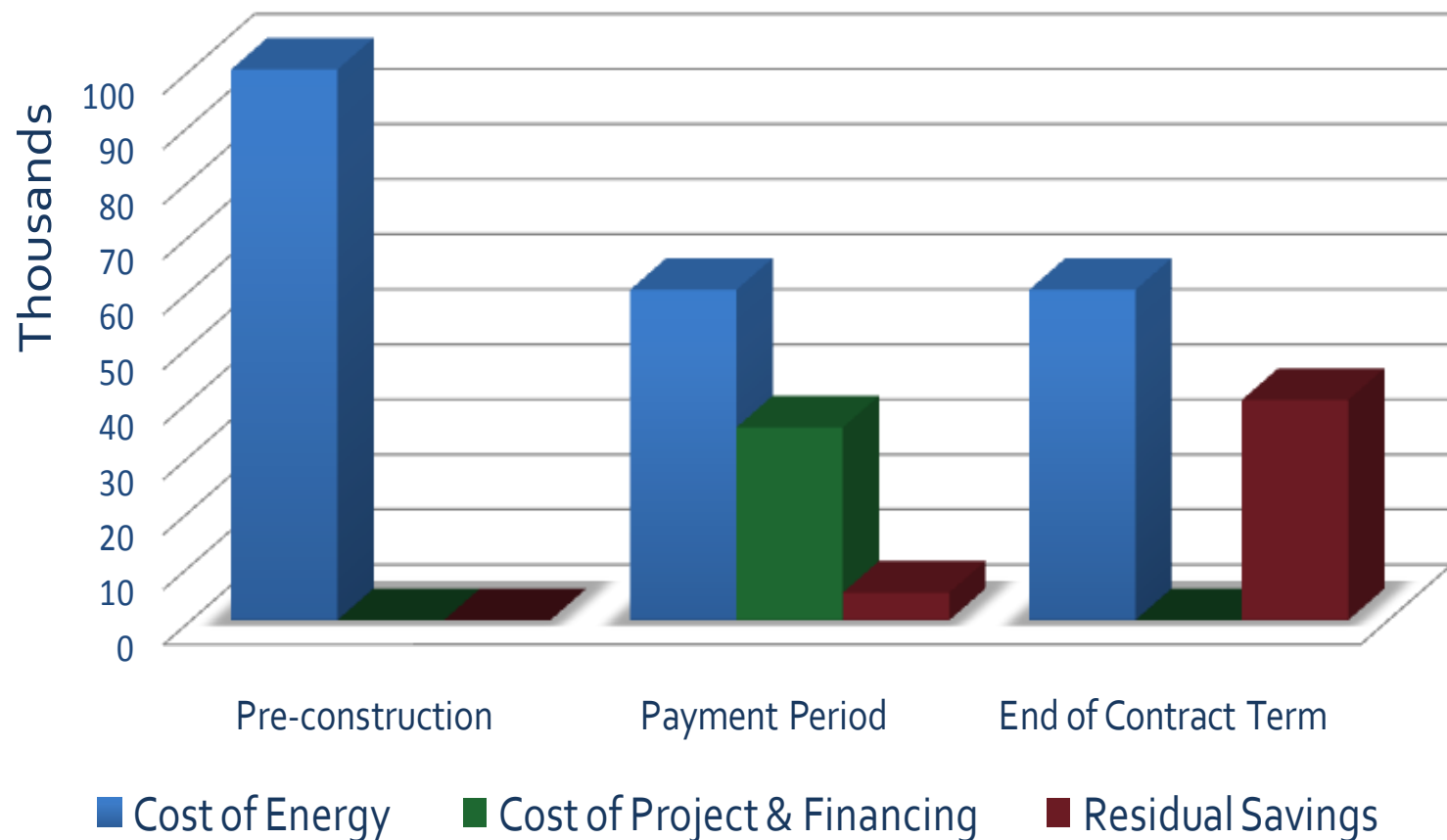


What is a UESC?

- The Utility:
 - fronts the capital costs
 - assesses the opportunities
 - designs and implements the accepted energy conservation measures (ECMs)
- The Agency repays the Utility:
 - from appropriations either at acceptance
 - or over time if financing is used

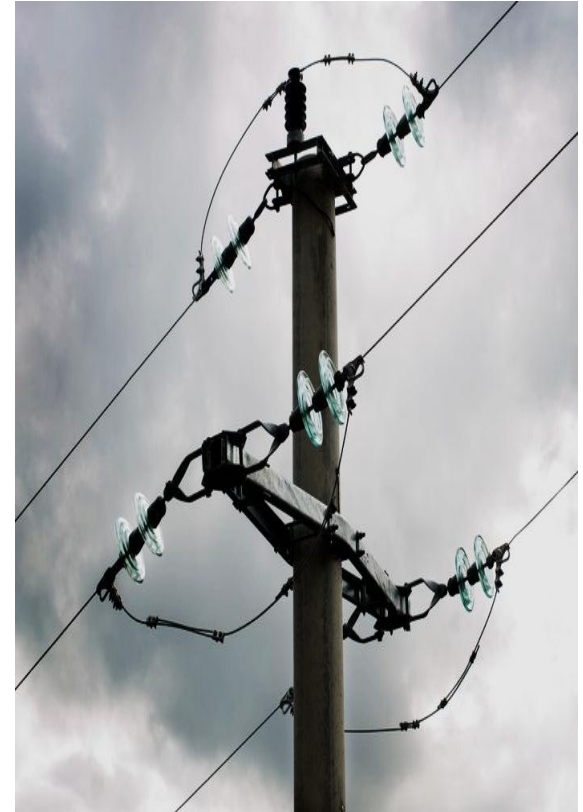


Project Re-payment w/ Financing

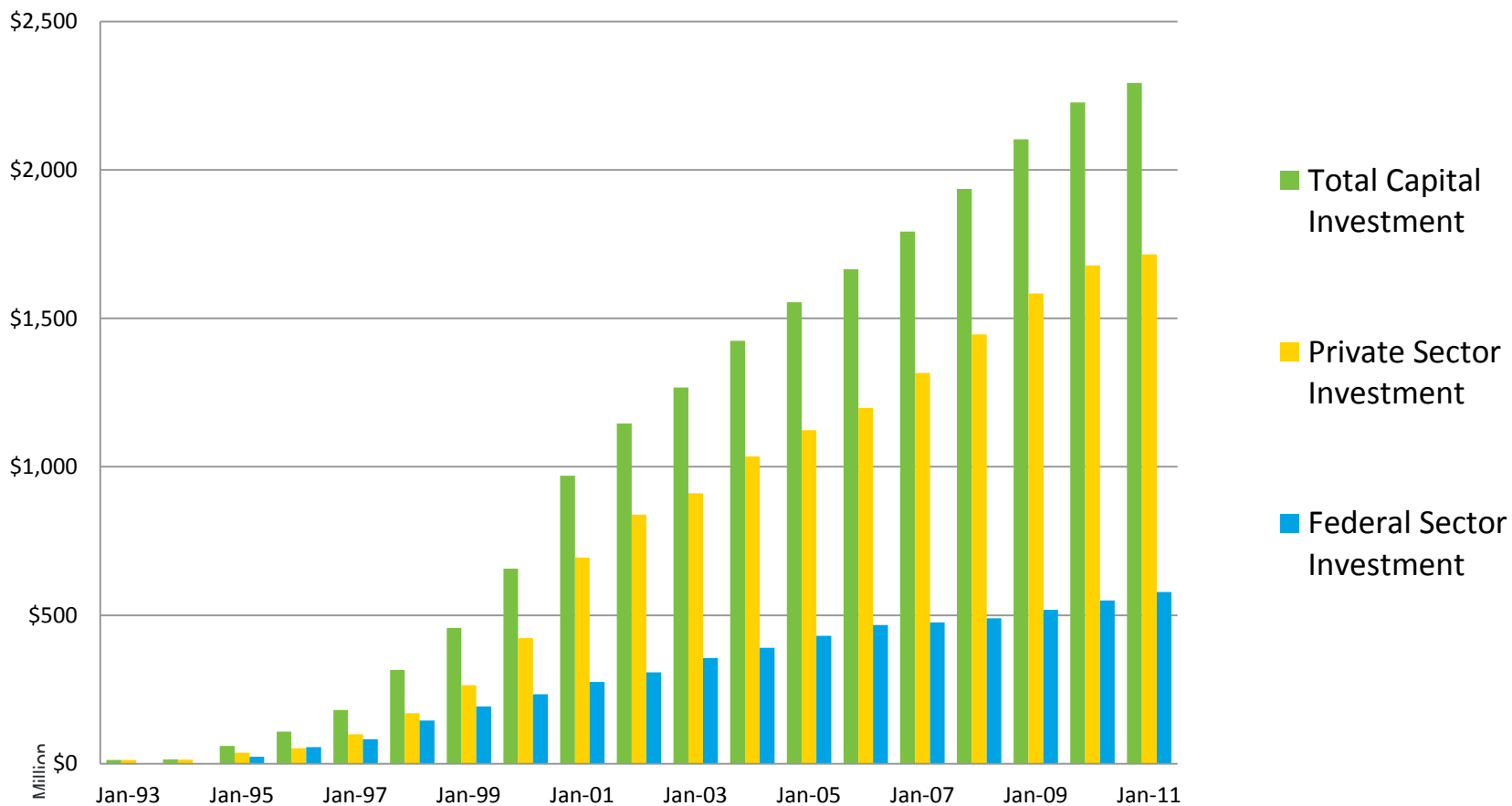


Benefits of UESCs

- Meet agency and legislated goals
- Use energy more wisely
- Reduce operating costs



Increasing Investment in UESCs



- In addition to two successful EUL projects, NASA has implemented seven UESC projects since 1998 at the following facilities:
 - Kennedy Space Center
 - Langley Research Center
 - Ames Research Center
- Total UESC investment at NASA to date: \$50.9 million
- NASA implemented the following ECMs across multiple facilities:
 - Load Control
 - Lighting
 - Compressed air
 - HVAC
 - Steam Plant Retrofit
 - Chilled Water Plant Optimization
 - Chiller Replacement
 - Photovoltaic System
 - Water Conservation



Using UESCs to Meet Federal Mandates — EO 13423 and EISA 2007

- Reduce federal facility energy use per square foot by 3% per year, 2006 – 2015, relative to 2003 (or 30% by end of 2015)
- Increase use of renewable energy to
 - not less than 5% of electricity use in 2010 – 2012
 - not less than 7.5% in 2013 and thereafter
 - at least half from new sources each year
 - implement renewables on agency property for agency use as feasible
- Reduce water use by 2% per year, 2008 – 2015 (or 16% by end of 2015)

What You Can Do with a UESC

- Energy efficiency
 - Reduce energy demand
 - Install high-efficiency equipment
 - Install control systems
 - Re-commission energy systems
- Water Efficiency
 - Reduce water demand
 - Install water efficiency measures
 - Install controls



What You Can Do with a UESC

- Renewable energy
 - Implement on-site renewable energy generation
 - Install solar parking structures
 - Install large-scale wind
 - Install co-gen systems



UESC

Authorizing Legislation

UESC Authorizing Legislation

- EPAAct 1992 – 42 USC 8256
- DoD 10 USC 2913 and 2866



Codified as 42 USC 8256; P.L. 102-486

- Section 546(c) Utility Incentive Programs: Agencies
- Are authorized and encouraged to participate in utility programs generally available to customers
- May accept utility financial incentives, goods, and services generally available to customers
- Are encouraged to enter into negotiations with utilities to design cost effective programs to address unique needs of facilities used by the agency

10 USC 2913 Contracts and Utilities

- Title 10: Armed Forces; Chapter 173; Subchapter 1; Section 546 (c) Utility Incentive Programs
- Encourages participation in gas or electric utility programs for the management of energy demand or for energy conservation
- Agencies may accept financial incentives, goods and services generally available from the utility
- Allows direct negotiation with energy savings contractors selected competitively and approved by the utility

10 USC 2866 Water Conservation Authority

- Water Cost Savings Realized –
- Half of the savings shall be used for water conservation activities as designated by DoD
- Half of the savings to be used at the installation at which the savings were realized

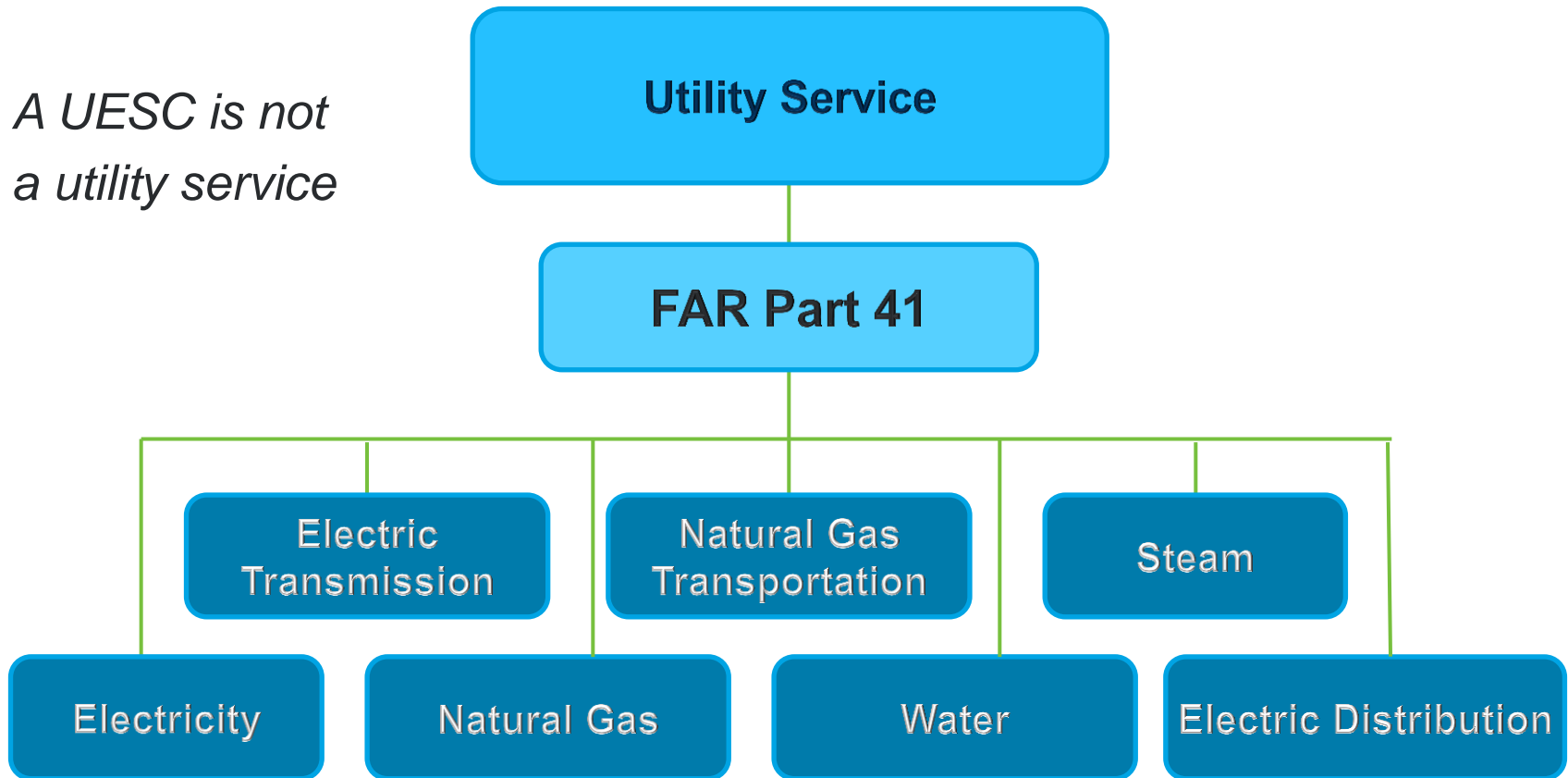


UESC

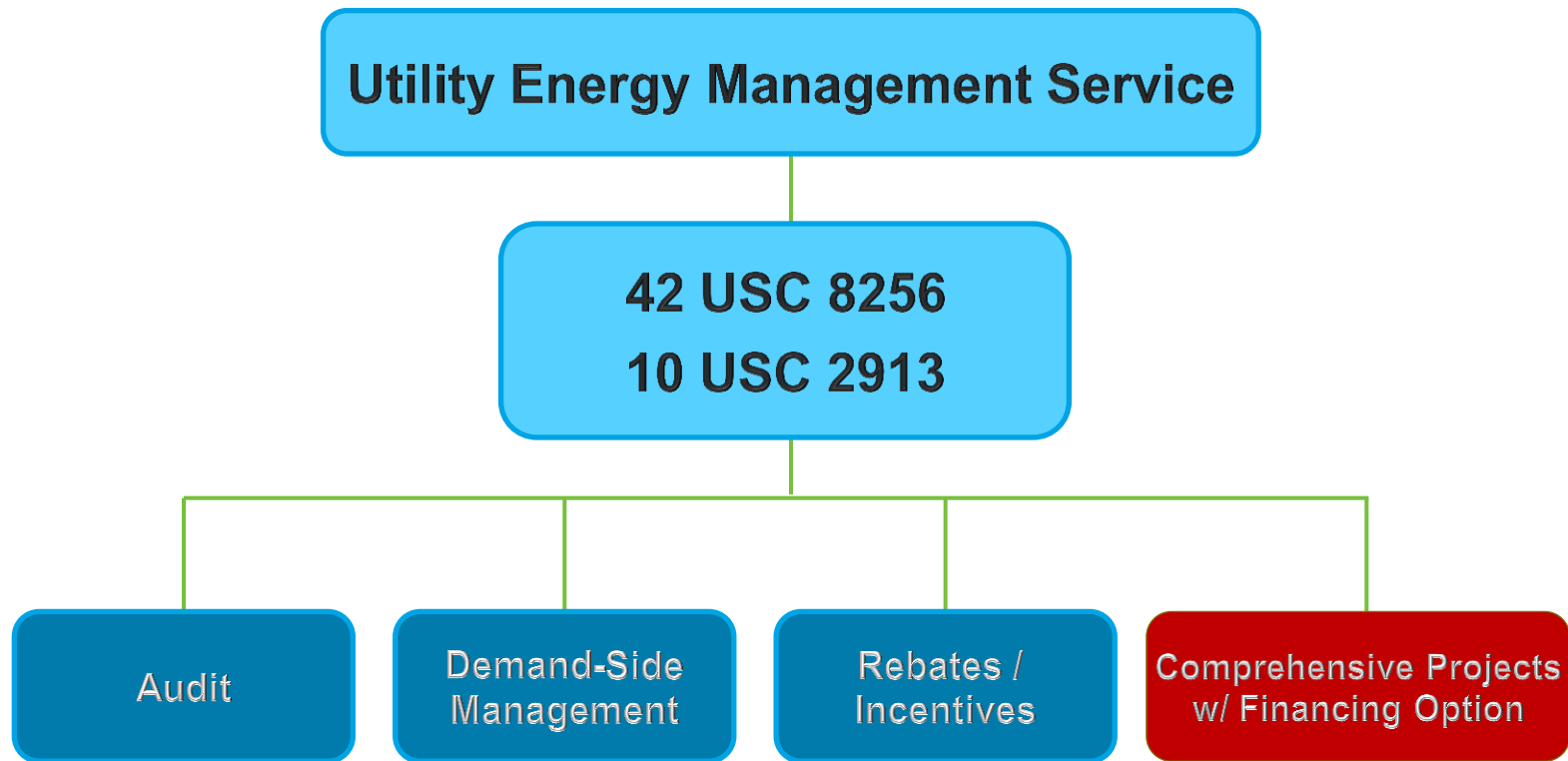
Contracting Mechanisms

GSA Area Wide Contracts (AWC)

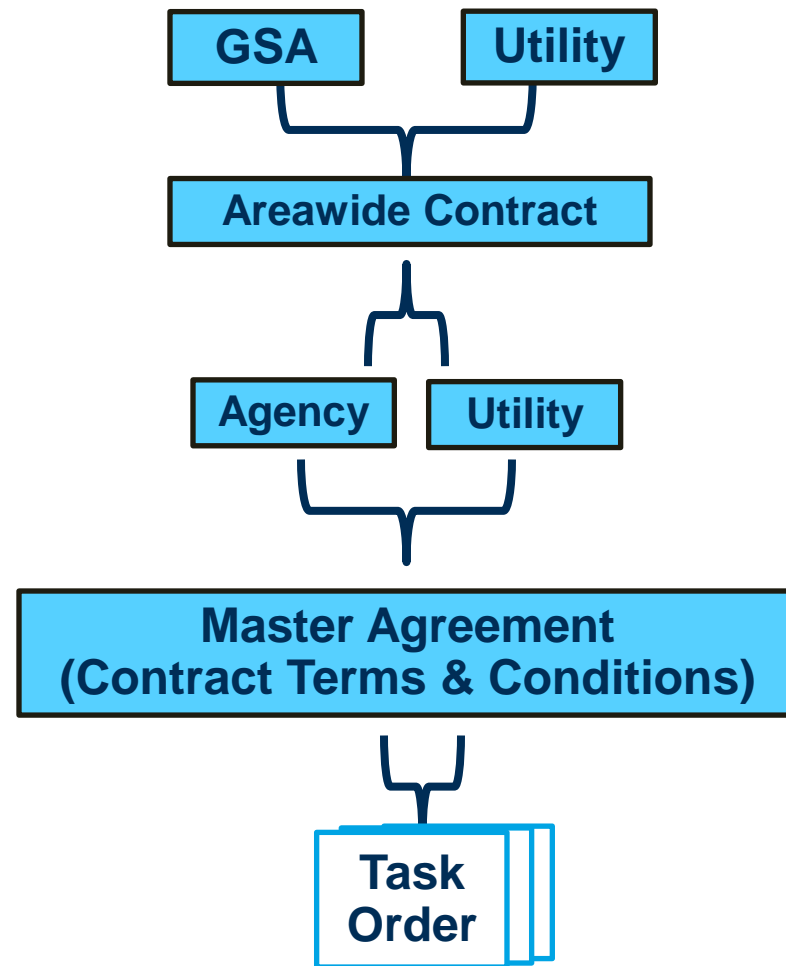
*A UESC is not
a utility service*



Acquiring Energy Management Services under an AWC

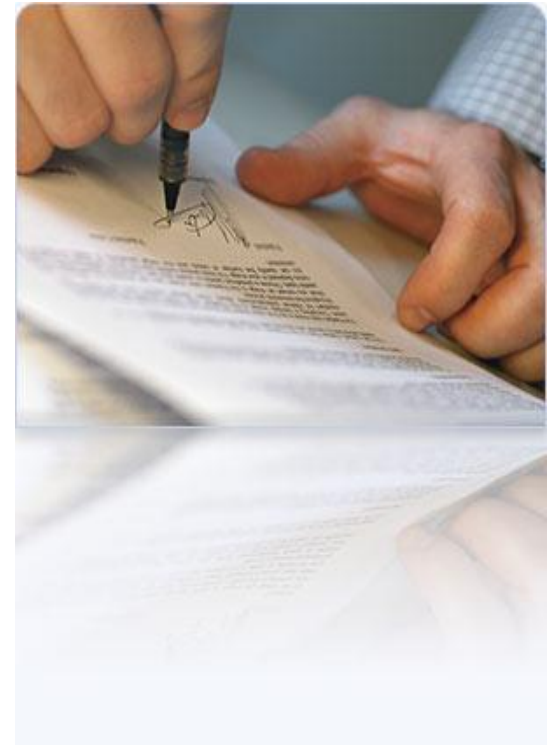


Where an AWC Exists

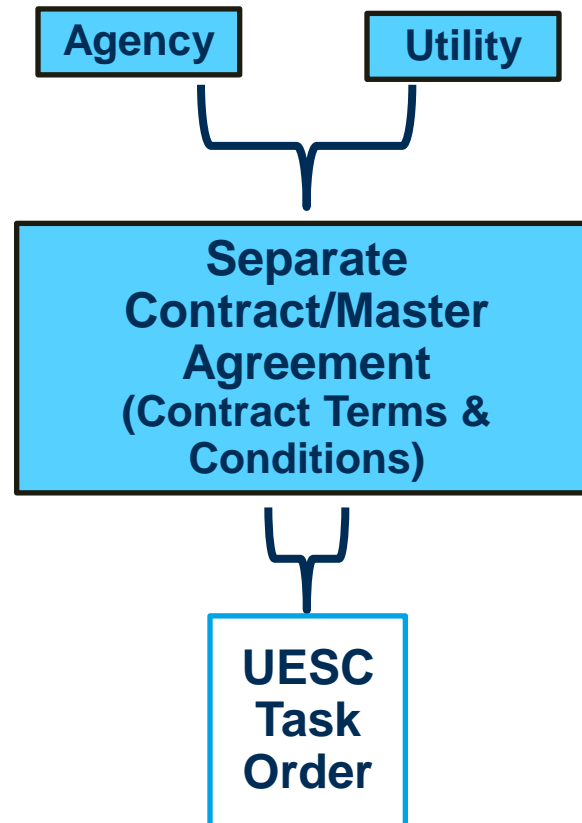


Energy Management Services Authorization (EMSA)

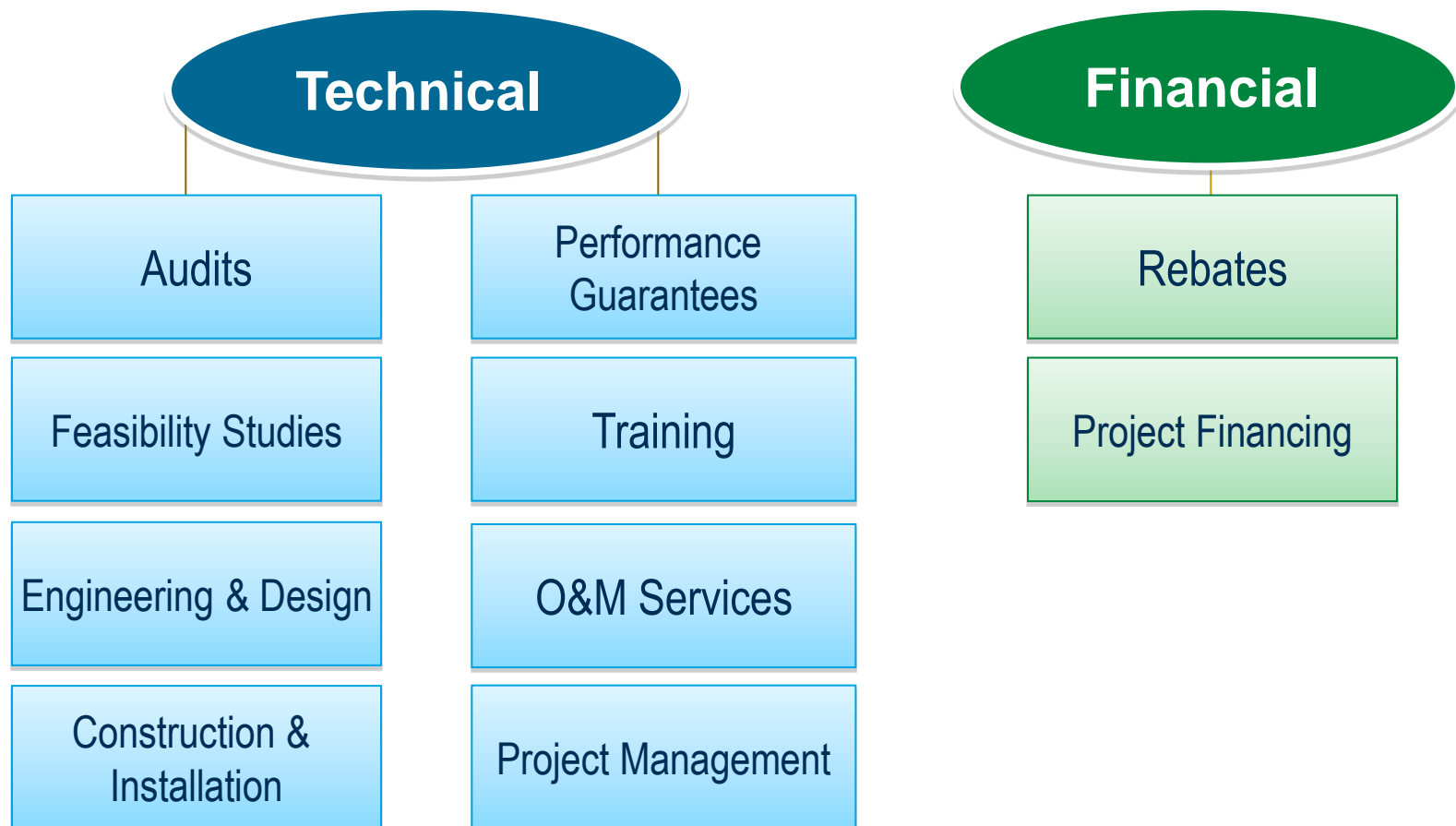
- Nature of service
- Estimated project cost, capital cost, percent of cost financed
- Rebate amount
- Simple payback
- Accounting and appropriations data
- Energy conservation measures
- Signed by Agency and Utility



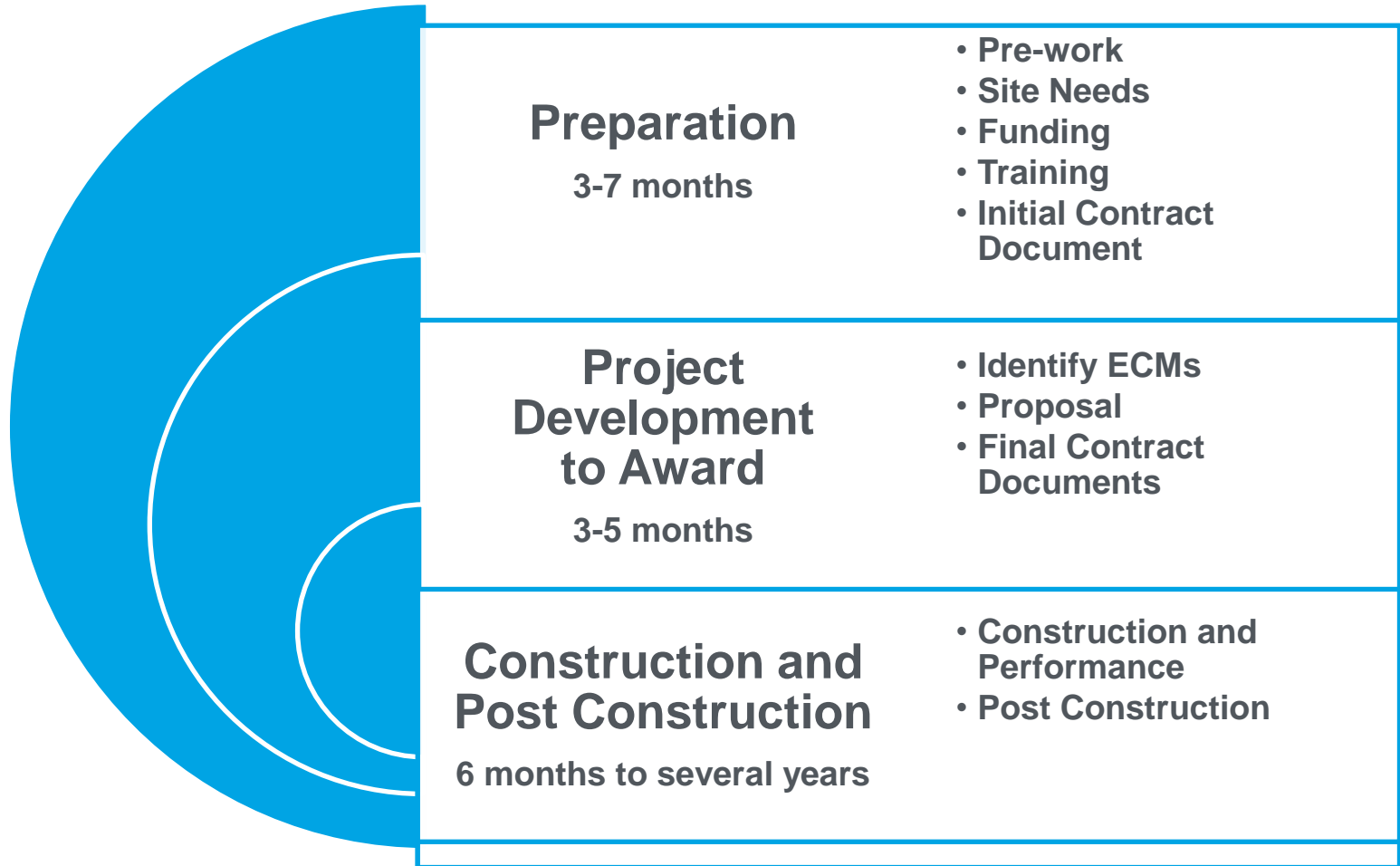
Where an AWC Does Not Exist



Typical UESC Offering



UESC Process



Preparation Phase: Agency Acquisition Team

- Membership
- Roles and responsibilities
- Contracting
- Legal
- Technical
- Energy Champion



Agency Team is needed to:

- Move a UESC project forward correctly and efficiently
- Bring together the people with knowledge, experience, and responsibility
- Gain support for the effort early in the process
- Involve those who will be affected by the project

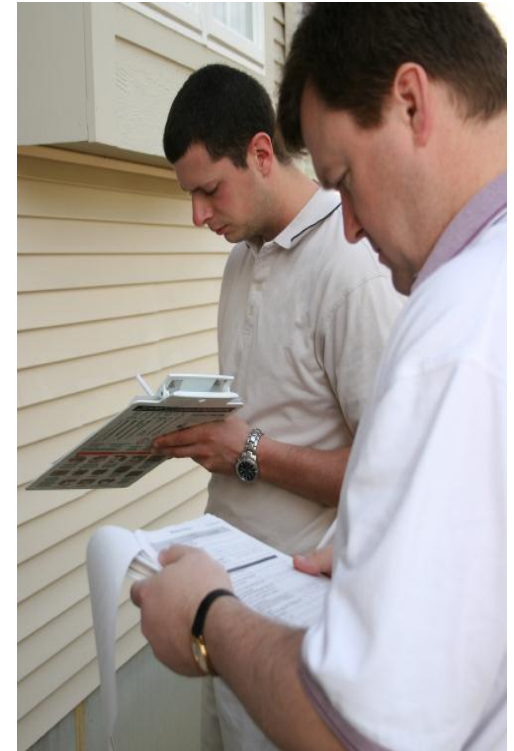


Agency Team Should Consist of:

- At least, a Contracting Officer and Technical Representative for the Agency
- Ideally, everyone who will help, hinder, or be affected by the project

Project Development: Preliminary Audit

- Broad assessment of the potential for energy and water efficiency measures
- Based on a review of existing facility use and conditions
- Examination of energy- and water-consuming equipment and control systems



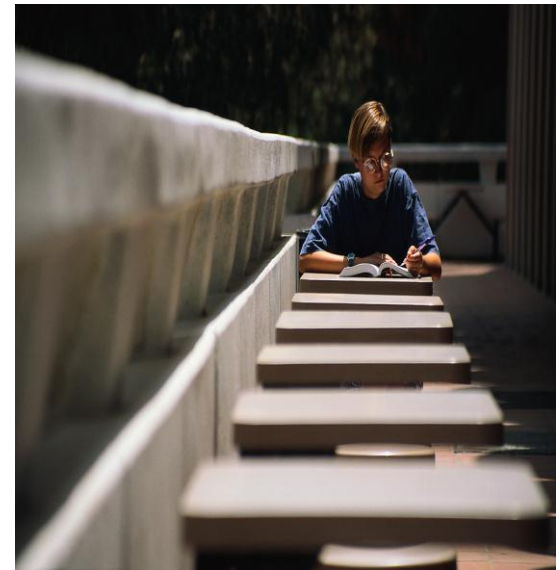
Preliminary Audit

- Assessment of existing facility
 - Campus or single building?
 - Office or laboratory?
 - 8 hours/day or 24 hours/day?
 - Circa 1950 or 2005?
- Analysis of
 - Energy- and water-consuming equipment, systems, and controls
 - Utility data for electricity, natural gas, steam, water, etc.



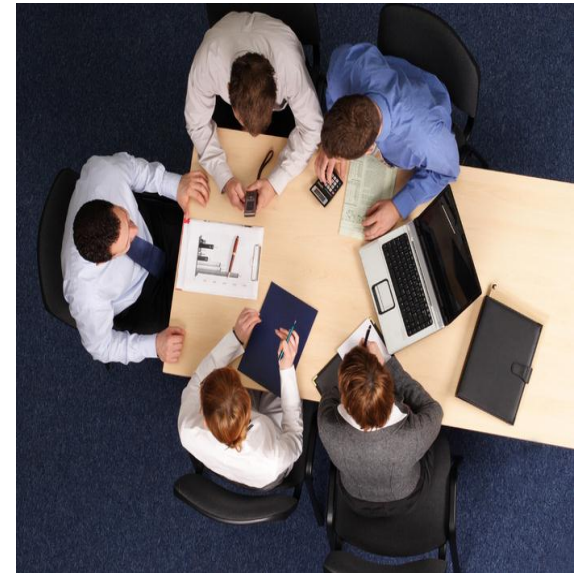
Preliminary Audit – Best Practices

- Negotiate cost of audit with the utility
- Include description of facilities/systems to be studied
- Include any agency-specific requirements
- Sign a Task Order for the audit
 - Indicate the negotiated cost
 - Attach Scope of Work for the audit



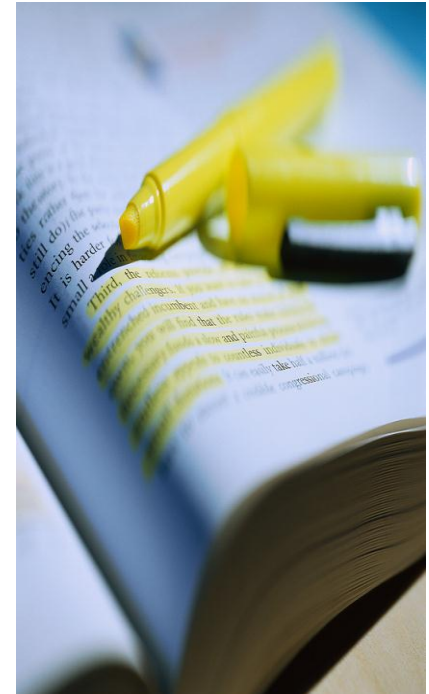
Project Development: Feasibility Study

- An “investment-grade” analysis of the site’s conditions and potential efficiency improvements
 - Details the technical and economic viability of proposed ECMs
 - Complies with the Task Order statement of work
 - Provides sufficient information for a decision to go forward



Feasibility Study

- Establishes the basis for the project design and finalizes the baseline
- Detailed assessment of existing facility use and conditions
- Detailed analysis of
 - Energy- and water-consuming equipment, systems, and controls
 - Utility data for electricity, natural gas, steam, water, etc.



Feasibility Study – Best Practices

- Negotiate cost of the Feasibility Study with the utility
- Sign a Task Order for the Feasibility Study
 - Indicate the negotiated cost
 - Attach Scope of Work for the study

Project Development: Performance Assurance

- Minimum level of performance assurance planning recommended for UESC by FEMP:
 - Start-up performance verification
 - Performance verification at the end of the warranty period
 - O&M training at construction and periodically during the contract period
 - Periodic inspections and performance verification
 - Assessment and resolution of performance discrepancies
 - <http://www1.eere.energy.gov/femp/pdfs/41898.pdf>

Project Development: Performance Assurance

- Agree on the baseline
- Clarify performance objectives
- Consider interactions between measures
- Specify verification method for each measure
- Identify financial and staff impacts and requirements
- Indicate reporting format & schedule

Project Development: Commissioning

- Commissioning objectives
 - Support effective O&M with training, documentation, and maintenance strategies
 - Identify O&M procedures that improve energy efficiency
 - Optimize equipment and control systems
- Develop “design and operating intent” early in the process (Feasibility Study kick-off meeting)
- http://www1.eere.energy.gov/femp/pdfs/commissioning_fed_facilities.pdf

Commissioning

- Review design with a focus on commissioning and maintenance
- Develop Commissioning Plan
 - Include specific actions for commissioning during construction, acceptance, and post-acceptance



UESC Resources

FEMP UESC Website

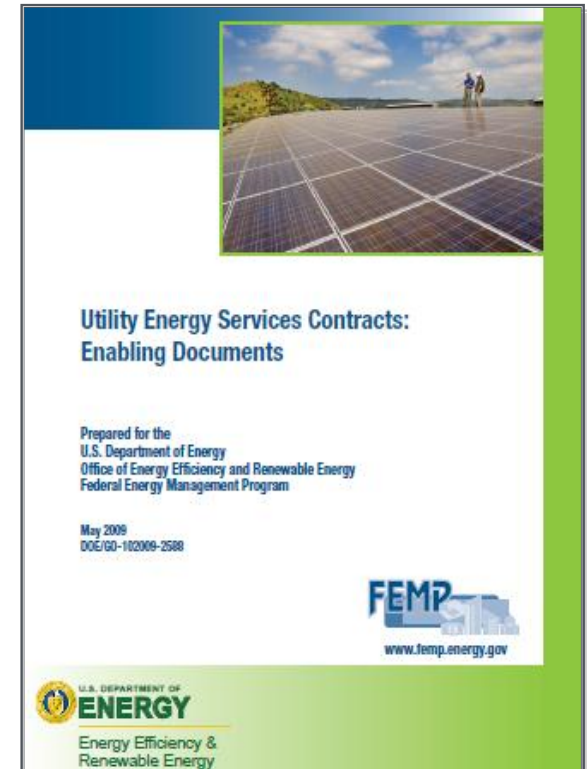
- Types of contracts
- Laws and regulations
- Financing mechanisms
- Technology resources
- Case studies
- Training opportunities

– <http://www1.eere.energy.gov/femp/financing/uescs.html>



UESC Enabling Documents

- Legislation and Executive Actions
 - Legal Opinions
 - Agency Guidance
 - Sample Documents
-
- http://www1.eere.energy.gov/femp/pdfs/uesc_enabling_documents09.pdf



Getting Started – Partnering Avenues

- Federal Utility Partnership Working Group (FUPWG)
 - Establishes partnerships and facilitates communications among Federal agencies and utilities
 - Develops strategies to streamline sound projects
 - Next meeting on October 25 – 26, 2011, Philadelphia
- Strategic Partnering Meetings
 - FEMP supports Federal–Utility Strategic Partnering Meetings to enhance partnerships and to launch utility incentive programs, including UESC

DOE FEMP Sponsored Project Support

Education

- UESC Workshops
- UESC Overview
- Web Training

GovEnergy 2011

- A River of Energy Solutions
- August 7 – 10, Cincinnati, Ohio



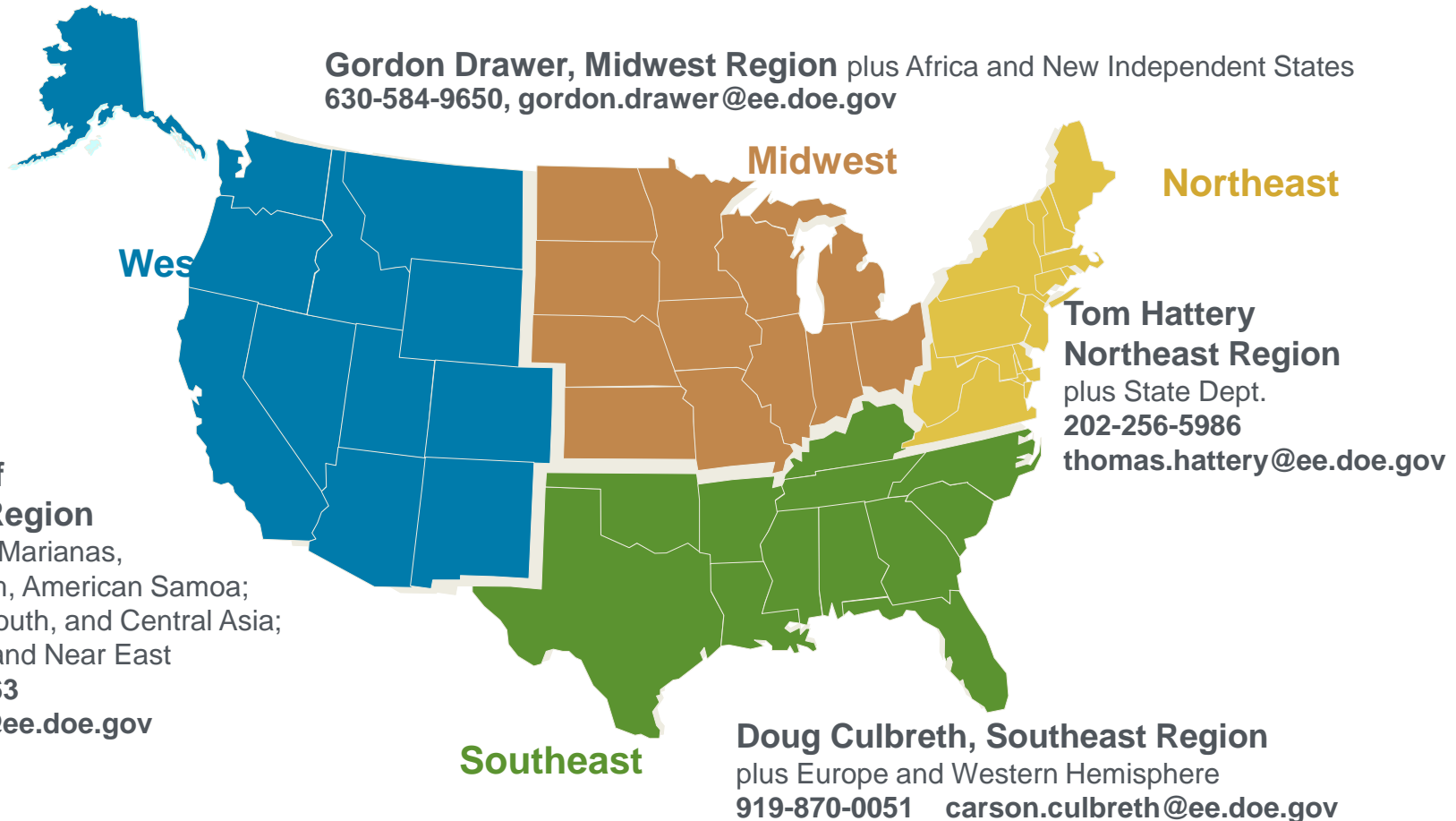
The Premier Energy Training Workshop
and Trade Show for Federal Agencies

DOE FEMP Sponsored Project Support

- Direct Project Support
 - Guide agency teams through the UESC process
 - Help with development of contract documents and provide document templates
 - Technical review of audits, feasibility studies, and proposals
 - In-depth technical support
 - Build partnerships and facilitate relationships



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